

### REMARKS/ARGUMENTS

Claims 79-113, 127, 128, 130-137, 144-147 and 148-156 (withdrawn) are pending. By this Amendment, claims 114-126, 129, 138-143 are canceled, and new claims 157-162 are added. Reconsideration in view of the above amendments and the following remarks are respectfully requested.

At the outset, applicants note that the Office Action makes reference to claims 77 through 154. However, as required by the Patent Office, claims 77 through 154 were renumbered as claims 79-156 as requested in the Notice of Non-Compliant Amendment issued by the Patent Office on May 17, 2007.

Claims 79-147 were rejected under 35 USC §102(e)/103(a) over Battilani (U.S. 7,025,582). This rejection is respectfully traversed.

At the outset, applicants respectfully submit that the rejection is improper in as much as it relies on 35 USC §103(a) as the present application and the patented Battilani are owned by the same entity (Sacmi Cooperativa Meccanici Imola Societa' Cooperativa). Thus, under MPEP §706.02(l)(1), any such rejection based upon 35 USC §103(a) must be withdrawn.

In relation to independent claims 79, 127, 128, 130, 137 and 144, applicants respectfully submit the following.

Claim 79 recites (emphasis added) an

*Apparatus, comprising a moulding unit having a punch and a cavity mould movable along a path between an open position in which said punch and said cavity mould are distanced apart from each other to receive a dose of plastics therebetween, and a closed position in which said punch and said cavity mould are aligned and interact to form an item by pressing said dose, said punch being kept at a height which is not greater than the height of said cavity mould along said path, the apparatus further comprising a supporting arrangement for supporting said dose, said supporting arrangement extending externally of said cavity mould for supporting said dose between said punch and said cavity mould in said open position.*

Battilani fails to disclose at least a punch kept at a height which is not greater than the height of the cavity mould along the path between the open position and the closed position.

In Battilani the punch is always kept higher than the cavity mould along the path between the open position and the closed position. Indeed also the Examiner stated in the Office Action that Battilani teaches upper punch (3) and lower mold (4).

The claimed apparatus provides a supporting arrangement which extends externally of the cavity mould for supporting the dose between the punch and the cavity mould in the open position when the punch is kept at a height which is not greater than the height of the cavity mould along the path between the open position and the closed position.

It is believed that this provision is not disclosed or suggested by Battilani and thus claim 79 is patentable over Battilani.

It is observed that the claimed solution permits a reduction of the period in which the dose remains in contact with the mould surfaces before pressing. It is known (and well explained in the disclosure of the application) that a long “contact period” can damage the product obtained by pressing the dose. Thanks to the adoption of a support arrangement for supporting the dose between the moulding elements in a mould having the punch not higher than the cavity mould, it is possible to reduce the “contact period” in that the punch, which moves towards the mould cavity, can propel the dose towards the mould cavity (the punch speed is very great, normally greater than the speed of the dose falling by gravity) whereby the contact period is minimized. It is underlined that a supporting arrangement is used in this case in order to guarantee a correct position of the dose with respect to the punch and thus the centering of the dose between the punch and the cavity mould. This effect of reducing the contact period while maintaining the centre positioning of the dose cannot be achieved and is neither taught or suggested by Battilani.

#### **Claim 127**

Claim 127 recites (emphasis added) an

*Apparatus, comprising a moulding unit having a punch and a cavity mould movable along an axis between an open position in which said punch and said cavity mould are distanced apart from each other to receive a dose of plastics therebetween, and a closed position in which said punch and said cavity mould interact to form an item by pressing said dose, a supporting arrangement for supporting said dose between said punch and said cavity mould, said supporting arrangement comprising a supporting member **of porous material**.*

Battilani fails to disclose or suggest at least a member of an arrangement for supporting a dose of plastics between a punch and a cavity mould in which this member is made of porous material. Battilani only discloses the thermal conditioning of the rods (supporting members) by means of a jet of air, but there is no hint as to the adoption of any porous supporting member of the arrangement which supports the dose.

It is noted that a pressurized fluid can be injected through a supporting member of porous material, thus making possible to ensure that detachment of the dose from the supporting arrangement occurs in any working conditions, substantially avoiding sticking of the dose to the supporting arrangement.

This solution is neither adopted nor suggested by Battilani, thereby it is believed that claim 127 is patentable over Battilani.

**Claim 128**

Claim 128 recites (emphasis added) an

*Apparatus, comprising a moulding unit having a punch and a cavity mould movable along an axis between an open position in which said punch and said cavity mould are distanced apart from each other to receive a dose of plastics therebetween, and a closed position in which said punch and said cavity mould interact to form an item by pressing said dose, a supporting arrangement for supporting said dose between said punch and said cavity mould, said supporting arrangement comprising a tubular supporting member having holes through which air can be injected toward said dose.*

Battilani fails to disclose or suggest at least a tubular supporting member having holes through which air can be injected toward the dose. Battilani only discloses the thermal conditioning of the rods (supporting members) by means of a jet of air, but there is no hint as to the injection of air toward a dose of plastics through holes of a tubular member of the arrangement which supports the dose.

It is believed that such a tubular member with holes for supporting a plastic dose is not suggested by Battilani and therefore claim 128 is patentable over Battilani.

**Claim 130**

Claim 130 recites (emphasis added) an

*Apparatus, comprising a moulding unit having a punch and a cavity mould movable between an open position in which said punch and said*

*cavity mould are distanced apart from each other to receive a dose of plastics therebetween, and a closed position in which said punch and said cavity mould interact to form an item by pressing said dose, a dose-delivering mouth of an extruder being interposed between said punch and said cavity mould in said open position.*

Battilani fails to disclose at least a dose-delivering mouth of an extruder interposed between the punch and the cavity mould.

The Examiner stated in the Office Action that “Battilani further discloses that the dose delivering head (6) is configured to deliver the plastic dose (D) onto the rods when the punch and the mold are in the open position (Fig. 5-7, D)”.

However, the dose delivering head 6 is not an extruder. Indeed Battilani discloses an extruder 14 with a nozzle 13 which is never interposed between the punch and the cavity mould. It is clear that the cups 12 of the rotating head 6 of Battilani are completely different from the nozzle of an extruder from both structural and functional points of view. It is emphasized that the arrangement of claim 130 prevents the plastic dose from being damaged by contact with the cups 12 or any similar transfer device and moreover considerably reduces the operative time of transferring the plastic from the extruder to the mould.

Another advantage of this solution consists in that it is no longer necessary to provide a rotatable pan, or other transport means, to transfer the dose of plastics from the extruder to the mould cavity, whereby the construction of the machine is significantly simplified.

It is thus believed that claim 130 is new and not obvious over Battilani.

#### **Claim 137**

Claim 137, which has been amended, now recites (emphasis added) an

*Apparatus, comprising a moulding unit having a punch and a cavity mould movable between an open position in which said punch and said cavity mould are distanced apart from each other and receive a plurality of doses of plastics therebetween, and a closed position in which said punch and said cavity mould interact to form an item by pressing said plurality of doses.*

Battilani fails to disclose at least a punch and a cavity mould which receive a plurality of doses of plastics therebetween for each compression operation. In Battilani each punch and corresponding cavity mould receive only one single dose for each compression operation.

This solution enables a great versatility and flexibility in manufacturing plastic objects. It is possible, for example, to manufacture items of plastics made from two or more materials, or colours of the same or different materials.

It is thus believed that claim 137 is not anticipated and not obvious over Battilani.

**Claim 144**

Claim 144 recites (emphasis added) an

*Apparatus, comprising a pair of rods for supporting a dose of plastics between a punch and a cavity mould, said pair of rods being actuatable by a cam arrangement having a first portion for driving said rods in a dose-receiving position in which said dose is received above said rods and a second portion for driving said rods in a dose-pinching position in which said dose is pinched between said rods, said second portion being adjacent to said first portion.*

Battilani fails to disclose (at least) that the cam arrangement drives the rods in a dose-receiving position and then in a dose-pinching position in which the dose is pinched between the rods.

Battilani only discloses a dose-receiving position in which the rods receive the dose and temporarily support the dose. In Battilani there is no disclosure or suggestion on commanding the rods to move from a dose-receiving position to a dose-pinching position.

This solution prevents any error (e.g. out of centre positioning) when the dose is released into the mould, which error can be due for example to inertial forces caused by the movement of the carousel supporting the moulds. Indeed thanks to the claimed dose-pinching position the dose can be firmly and reliably transferred without any unpredictable and uncontrolled displacement from the desired and proper position on the rods, whereby the dose is released into the mould in the desired and centred position.

It is thus believed that such a solution is new and non-obvious over Battilani and therefore claim 144 is patentable in view of Battilani.

Reconsideration and withdrawal of the rejection are respectfully requested.

In view of the above amendments and remarks, Applicants respectfully submit that all the claims are patentable and that the entire application is in condition for allowance.

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Should the Examiner believe that anything further is desirable to place the application in better condition for allowance, he is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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